



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,735	01/22/2001	Junchen Du	1	1300

7590 04/05/2004

Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560

EXAMINER

PHU, PHUONG M

ART UNIT	PAPER NUMBER
----------	--------------

2631

8

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/766,735

Applicant(s)

DU, JUNCHEN

Examiner

Phuong Phu

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 5, 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-4, 6-13 are 15-18 are rejected under 35 U.S.C. 102(a) as being anticipated by the prior art admitted by the applicant in the specification of the instant application, (now referred as “admitted prior art”).

As per claims 1 and 10, see figure 3 and pages 2-7 of the specification, the admitted prior art discloses a method/system comprising:

first storing step/means (12) of storing a feedback value ($w_1(n-2)$) associated with an input sample which precedes a current input sample ($x(n)$) in a first filtering stage (1);

second storing step/means (16) of storing a feedback value ($w_2(n-2)$) associated with an input sample preceding the current input sample in a second filtering stage (3);

third storing step/means (10) of storing a partial state value ($w_1(n-1)$) in a storage coupled between the filtering stage and second filtering stage, the partial state value being a function of a feedback state value ($x_1(5)$) associated with the current input sample ($x(n)$) and the input sample preceding the current input sample (see $w_1(n-2)$); and

updating step/means (19, 18, 6, 8, 14)) of using the partial state value to update a feedback stage value ($w_2(n-1)$) associated with the second filtering stage.

Art Unit: 2631

As per claims 2 and 11, the admitted prior art discloses that the first filtering stage comprises: a first storage element (10) of storing a feedback state value ($w_1(n-1)$) associated with an input sample which precedes the current input sample; and a second storage element (12) of storing a feedback value ($w_1(n-2)$) associated with an input sample which precedes the input sample preceding the current input sample.

As per claim 3 and 12, the admitted prior art discloses that the second filtering stage comprises: a first storage element (14) of storing a feedback state value ($w_2(n-1)$) associated with an input sample which precedes the current input sample; and a second storage element (16) of storing a feedback value ($w_2(n-2)$) associated with an input sample which precedes the input sample preceding the current input sample.

As per claim 4 and 13, as applied to claims 1 and 10, the admitted prior art discloses that the partial state value is used to update the feedback state value associated with the first storage element of the second filtering stage (see figure 3).

As per claims 6 and 15, in the admitted prior art method/system, storing the partial state value inherently enables the update of the feedback state value associated with the first storage element of the second filtering stage within one cycle after the availability of the preceding feedback state value updates ($w_1(n-1)$) associated with the first filtering stage.

As per claims 7, 8, 16 and 17, the admitted prior art discloses that the storage elements are implemented with a DSP (see figure 4).

As per claims 9 and 18, the admitted prior art discloses that the storage elements are implemented with circuits (see figure 4).

Art Unit: 2631

Allowable Subject Matter

3. Claims 5 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 19 and 20 are allowed.

Conclusion

5. References (6,445,735), (4,521,867) and (6,263,354) are additionally cited because they are pertinent to the claimed invention.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 703-308-0158. The examiner can normally be reached on M-F (8:30-6:00) First Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu
Primary Examiner
Art Unit 2631

Application/Control Number: 09/766,735

Page 5

Art Unit: 2631

Phung Phu
Phuong Phu
3/18/04

PHOUNG PHU
PRIMARY EXAMINER